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|--|-------------|----------------------|----------------------------------|-----------------------------|
| 10/810,154   | 03/25/2004  | Ban Kuan Koay        | 70030659-1                       | 8362                        |
| 57299  | 7590        | 06/22/2009           |                                  |                             |
| Kathy Manke<br>Avago Technologies Limited<br>4380 Ziegler Road<br>Fort Collins, CO 80525 |             |                      | EXAMINER<br>PINHEIRO, JASON PAUL |                             |
|  |             |                      | ART UNIT<br>3714                 | PAPER NUMBER                |
|  |             |                      | NOTIFICATION DATE<br>06/22/2009  | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

avagoip@system.foundationip.com  
kathy.manke@avagotech.com  
scott.weitzel@avagotech.com

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/810,154 | <b>Applicant(s)</b><br>KOAY ET AL. |  |
|                              | <b>Examiner</b><br>Jason Pinheiro    | <b>Art Unit</b><br>3714            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. After the amendment filed on 12/16/2008, Claims 1 and 10 have been amended, therefore claims 1-18 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4-5, 8, 10, 13-14 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosenberg (US 2005/009605).

Regarding claims 1 and 10: Rosenberg '605 discloses a game controller comprising: a moveable element (paragraph [0015]) (Fig. 2) having an optically readable pattern on a surface thereof (paragraph [0022]), said moveable element moving relative to a fixed position and having a position characterized by a relative position of said moveable element relative to said fixed position (Fig. 2) (paragraph [0018]); and an imaging element (Imager 16) that forms an image of a sub-area on said surface (paragraph [0019]), said sub-area being determined by said relative position of said moveable element relative to said fixed position (paragraph [0019] & paragraph [0022]), and a memory including a map that

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specifies said readable pattern in each sub-area on said surface that can be imaged by said imaging element (paragraph [0018], U.S. Pat. No. 5,644,139 (abstract) which is incorporated by reference), said map being a reference image of said surface of said moveable element that is larger than said image of said sub-area on said surface formed by said imaging element such that said image corresponds to a portion of said reference image (paragraph [0018]) and a controller (movement detector 56) (Fig. 4) configured to compare said image to said map to determine said position of said moveable element (paragraph [0025]).

Regarding claim 4 and 13: Rosenberg discloses that said controller generates a signal indicative of a rotation of said moveable element about a predetermined axis on said moveable element (Paragraph [0027])(Fig. 2).

Regarding claims 5 and 14: Rosenberg discloses that said moveable element comprises a handle (paragraph [0016]).

Regarding claim 8 and 17: Rosenberg discloses that said map comprises a plurality of sub-maps that are rotated relative to one another (Paragraph [0027]).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable Rosenberg (US 2005/009605) in view of Chen et al (US 2003/0020690).

Rosenberg discloses that which is discussed above. However Rosenberg does not disclose that said pattern comprises a plurality of randomly distributed spots.

Chen '690 does disclose that said pattern comprises a plurality of randomly distributed spots (Paragraph [0023])(Fig. 9).

Therefore it would have been obvious to one skilled in the art at the time the invention was made to integrate the teachings of Chen into the teachings of Rosenberg in order to yield the predictable result of creating a more defined surface to create an image of and therefore create a more accurate game controller.

6. Claims 3, 6, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg (US 2005/009605) in view of Liebenow (US 6078312).

Regarding claims 3 and 12: Rosenberg discloses that which is discussed above. However Rosenberg does not disclose that said controller generates a signal indicative of a position of said movable element in terms of first and second orthogonal displacements from a reference position.

Liebenow '312 does disclose that said controller generates a signal indicative of a position of said movable element in terms of first and second orthogonal displacements from a reference position (Col. 5, Line 11 – Col. 6, Line 37);

Therefore it would have been obvious to one skilled in the art at the time the invention was made to integrate the teachings of Liebenow into the teachings of Rosenberg in order to yield the predictable result of creating a more accurate game controller.

Regarding claims 6 and 15: Rosenberg discloses that which is discussed above. However Rosenberg does not disclose that said handle comprises a shaft with a shaft axis parallel to said predetermined axis (Fig. 5).

. Liebenow does disclose that said handle comprises a shaft with a shaft axis parallel to said predetermined axis (Fig. 5).

Therefore it would have been obvious to one skilled in the art at the time the invention was made to integrate the teachings of Liebenow into the teachings

of Rosenberg in order to yield the predictable result of creating a more accurate game controller.

7. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg (US 2005/009605), as applied to claim 5 above.

Regarding claims 7 and 16: Rosenberg discloses that which is discussed above. Although Rosenberg does not specifically disclose a push button having a state that is sensed by said controller, it is well known in the art that joysticks often include additional buttons to provide additional inputs for the user, in order to make a more versatile game device for a player to use (paragraph [0016]).

8. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg (US 2005/009605), in view of Drake (US 7046229)

Regarding claims 9 and 18: Rosenberg discloses that which is discussed above. However Rosenberg does not disclose that a plurality of search processors, each search processor comparing a portion of said map with said image formed by said imaging element.

Drake '229 does disclose search processors, each search processor comparing a portion of said map with said image formed by said imaging element. (Col. 11, Lines 14-60). Although Drake does not specifically disclose a plurality of search processors, it is well known in the computer art to use multiple processors to conduct a specific task to increase the speed of completing the computing task.

Therefore it would have been obvious to one skilled in the art at the time the invention was made to integrate the teachings of Liebenow into the teachings of Rosenberg in order to yield the predictable result of creating a more accurate game controller.

### ***Response to Arguments***

9. Applicant's arguments filed 12/16/2008 have been fully considered but they are not persuasive. Regarding Applicant's arguments that Rosenberg does not disclose "said map being a reference image of said surface of said moveable element that is larger than said image of said sub-area on said surface formed by said imaging element such that said image corresponds to a portion of said reference image": Rosenberg discloses the invention as discussed above, Rosenberg also discloses comparing the image of the sub area with multiple previous images of the sub area to track the movement of the device (paragraph [0018]). Therefore, the previous images collectively would inherently be larger than the single image of the sub area which is being compared to them.

### ***Conclusion***

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Pinheiro whose telephone number is (571)270-1350. The examiner can normally be reached on M - F 8:00 AM - 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dmitry Suhol can be reached on (571) 272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry Suhol/  
Supervisory Patent Examiner, Art  
Unit 3714

/J. P./  
Examiner, Art Unit 3714